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# B P I S A E

## RESEARCH ACTIVITIES

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PLANT INDUSTRY STATION, BELTSVILLE, MD.

February 1952

### Grasslands Congress Plans Move Forward

Plans for the Sixth International Grasslands Congress at State College, Pa., August 17-23 (see USDA press release 99-52) are rapidly taking shape, says W.M. Myers, vice-chairman of the organizing committee and chairman of the program committee.

A major task now is to complete the program. Papers will be by invitation only. The committee circularized leaders in grasslands research around the world for suggestions on topics to be covered, speakers best qualified to present the material. From this survey has come the outline for a well-rounded program covering genetics and breeding, improvement and management of cultivated grasslands, improvement and management of range lands, ecology and physiology, soil management and fertilization, soil and water conservation, seed production and distribution, harvesting and preservation of forage, utilization of forage in livestock feeding, machinery, experimental procedures, and improvement and management of tropical grasslands.

The Congress, which is expected to attract more than 2,000 delegates, is open to everyone interested in the advancement of grasslands farming. A number of Bureau scientists will have a part in it.



Myers



## NEW POSTS FOR MCKIBBEN, EVANS, RODENHISER

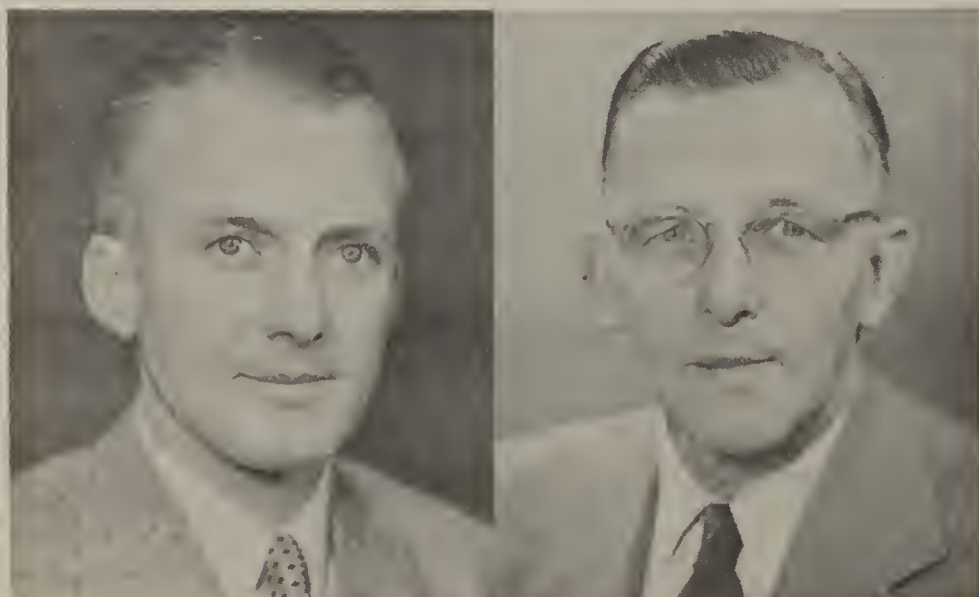
Eugene G. McKibben, who succeeds the late A.W. Turner as director of research in agricultural engineering, comes to Beltsville from Auburn, Ala., where he has been in charge of the U.S. Tillage Machinery Laboratory since 1950. In a distinguished career, Dr. McKibben has served as head of the departments of agricultural engineering at Michigan State College and at the Pineapple Research Institute of Hawaii. He was associate professor of agricultural engineering at his alma mater, Iowa State, for 14 years. An authority on tillage mechanics, he has contributed extensively to professional literature and is the author of two textbooks. His findings on the tendency of tractors to back flop still provide the basis for safety tests in industry. One of his reports was cited in ASAE in 1940. He received the Cyrus Hall McCormick gold medal for exceptional service in 1949.



McKibben

Lewis S. Evans, well known to Bureau personnel, fills a newly created position on the Chief's staff--research program analyst. Experience the past two years as research project analyst for ARA gives Mr. Evans an excellent background for the new assignment. His work with the Bureau goes back to 1936 when he joined the Cereals Division to conduct research in weed control. Mr. Evans is a graduate of Kansas State, holds an MS from Nebraska, and has done graduate study at Minnesota.

Herman A. Rodenhiser replaces K.S. Quisenberry as head of the Division of Cereal Crops and Diseases. An able researcher on the staff since 1927, Dr. Rodenhiser is also well known to Bureau personnel. A graduate of the Univer-



Evans

Rodenhiser

sity of New Hampshire, he began work in flax diseases for the Division while a graduate student in plant pathology at the University of Minnesota. He came to Washington in 1930, was placed in charge of cooperative research on cereal rusts in 1941, made assistant head of the Division this past year.

## RESEARCH NEWS BRIEFS

Krilium, the synthetic soil conditioner recently announced by the Monsanto Chemical Corporation, is expected to be an enormous boon to soils and plant research. L.E. Allison (SOILS) who reported results of his studies with the compound at the AAAS symposium in December, later described his experiments to a Bureau seminar. He tested the material on several alkali and saline soils at the U.S. Salinity Laboratory, found it highly effective in facilitating aggregation. Treated plots of both alkali and saline soils produced full stands of corn. One treated nonsaline alkali soil gave higher yields than normal soil. The results indicate the importance of soil structure in production on saline and alkaline soils. The Bureau has made cooperative field tests with the material in the production of cotton in Alabama, tobacco in Tennessee, Pennsylvania, and Wisconsin. In each case Krilium improved the soil structure, increased yields.

\* \* \*

Preliminary tests indicate that 2,4,5-T may replace NAA as a stop drop spray for APPLES in Central Washington. L.P. Batjer points out that the new chemical offers a greater latitude in timing. It will control drop in Wine-sap and Delicious varieties when applied 6 to 8 weeks before harvest. This would be an advantage where those two varieties are interplanted because it would permit spraying both at the same time. Further tests are to be made on the effects of 2,4,5-T on maturity of the fruit. In Eastern tests the material has frequently advanced maturity, shortened storage life, particularly with early ripening varieties.

\* \* \*

From "a gleam in the agronomist's eye" to a commercial machine in less than one year is the remarkable achievement of cooperative research by the Bureau, the Oklahoma Experiment Station and private industry. Donald L. VanHorn (TMSC) reports that 3 months after shop work was started on the pilot model of a tractor-mounted stripper harvester for CASTOR BEANS, a single row machine was ready for field testing. When it proved promising, plans were drawn up for a 2-row model and a contract let for the production of 60 machines. That was in March 1951. The machines were delivered in September and made available to farmers and custom operators for harvesting the 1951 crop. The 1952 model, now in the works is expected to have an improved cleaning mechanism, use less critical material.

\* \* \*



Two advanced COTTON hybrids now under study offer a partial solution to mechanization, says G.J. Harrison (C&OFC&D). Their open growth habits permit excellent penetration of sunlight, insecticides, and defoliants. They develop few branches, unusually long first internodes in the fruiting branches, long leaf stems, and deeply cupped leaves. Fiber quality of the more open type is better than average. In the other hybrid the fiber is superlative in every measurable quality. Big question is how well will the new strains yield. That is still to be determined.

\* \* \*

Two new Ohio inbred CORN lines--OH43 and OH45--were used in the production of hybrid seed planted on an estimated 400,000 acres in 1951, says G.H. Stringfield (CC&D). Carrying resistance to stalk rots, leaf blights, corn borers, and aphids, they were used to produce hybrids Ohio K62, Ohio C54, and Ohio L51. These hybrids do not mature early, however, and are not recommended for early mechanical harvest or for planting where they would be followed by winter wheat.

\* \* \*

Testing the MOVEMENT AND PERSISTENCE OF HERBICIDES IN SOIL, P.J. Linder (WI) found most of the chemicals (CMU, experimental herbicide I, and "chloro" UPC used in these studies) remained in the top surface (3mm) of the soil when applied as sprays at rates from 40 to 100 gallons an acre. Water equal to half-inch rainfall and even a slight mechanical disturbance reduced the herbicidal effect.

\* \* \*

During 1951 Bureau scientists and officials prepared 1,078 papers. Of these 686 were for publication only and most of them appeared in scientific and trade journals; 165 were for talks before agricultural, industrial, or scientific groups; and 227 were given first as talks and later published in journals or proceedings. Field crops researchers were the most prolific writers, turned out 449 papers in all. Horticultural crops workers were second with 353 manuscripts. The Soils Divisions accounted for 166, agricultural engineering for 110. Many of these papers formed the basis for press releases and radio scripts prepared in the Division of Information.

\* \* \*

Evidence that STORAGE at low temperatures make mature green tomatoes susceptible to alternaria root rot comes from studies by L.P. McColloch and John T. Worthington (HT&S). Alternaria tenuis is a weak pathogen, ordinarily unable to produce decay in healthy tomatoes. The occurrence of severe rot in commercial shipments suggested that storage at low temperature was a factor in susceptibility. Results of experiments proved that the lower the temperatures and longer the holding period, the greater the susceptibility. On the basis of these findings, storage at 50° F. or higher is now recommended.

\* \* \*

Goliad BARLEY developed by E.S. McFadden (CC&D) and G.W. Rivers of the Texas Station is showing up well both as a winter forage crop and a good grain producer when the top growth is not severely injured by late winter freezes. Goliad comes from a cross between Juliaca and Peatland made by Mr. McFadden in 1938. Their tests indicate it carries resistance to the common races of leaf rust and stem rust and also to powdery mildew, spot blotch, and net blotch. At College Station Goliad produces average yields of 30.8 bushels an acre and has given higher forage yields than Seabreeze wheat, Fultex or Mustang oats. Grown both as a dryland crop and under irrigation in the lower Rio Grande valley, it has out-yielded standard varieties of wheat and oats as a forage crop.

\* \* \*

New Bureau PUBLICATIONS off the press in January include:

C 885	Ten Peaches and a Nectarine for the Western States
C 891	The Use of Sawdust for Mulches and Soil Improvement
C 892	Studies of Soil Moisture and Spacing for Seed Crops of Carrots and Onions
FB 2032	Liming Soils for Better Farming
FB 2034	Potato Growing in the Western States
FB 2037	Winter Oats for the South
H&G 9	Suburban and Farm Vegetable Gardens
L 314	Inclined-Column Grain Drier
Report of the Chief, BPISAE, 1951	
Soil Survey Mitchell County, N.C.	
Soil Survey Scott County, Va.	
TB 1035	Anthraxnose and Red Rot of Sorghum
TB 1046	Research on Chemical Control of Fungi in Green Lumber, 1940-51



## RETIREMENTS

December 31, 1951

Edwin Smith (HT&S) with 30 years of government service. In charge of the field station laboratory at Wenatchee, Wash., since 1932, he has made scores of improvements in the methods of storing and transporting deciduous fruits. Mr. Smith's work in this field began in 1912 on graduation from Michigan State College. He spent the next 5 years in horticultural work in Canada, first with the Department of Agriculture of British Columbia and later in Ottawa. He came to USDA in 1917 with the old Bureau of Markets, resigned later to work 3 years with western shippers. He is the author of some 40 publications.

Edith C. Johnson (Personnel), with nearly 35 years of service. She lives at the Bellevue Hotel, Washington.

G. Archie Russell (Agent, Horticultural Crops) with more than 36 years of service. His home is 909 South College Ave., Bryan, Texas.

January 18, 1952

Lilian Guernsey (Horticultural Crops) with 35 years of service. Her home address is 1626 North Adams, Arlington, Va.

January 31, 1952

Calvin S. Connelly (SPI). His work with the Bureau dates from 1923. He makes his home at 4625 Asbury Place, N.W., Washington, D.C.

William Jones (PE&I) with the Bureau since 1913. His home is at 1106 Virginia Ave., S.W., Washington, D.C.

James C. Brown (Plant Industry Station) with 9 years of service. He lives at Spencerville, Md.

## DEATHS

Walter T. Swingle, 81, noted plant explorer who helped organize this Bureau, died January 19. Dr. Swingle retired in 1941 after 50 years of service. For the past 10 years he had been an advisor to the University of Miami.

Adam T. Holman, 52, agricultural engineer in charge of cooperative relations with the Extension Service, died January 20. A graduate of Penn State College, Mr. Holman had served as agricultural engineer for the North Carolina Extension Service and later with the Soil Conservation Service in Missouri and Puerto Rico before joining the Bureau in 1936.

